CHAPTER 15

PORT SHARING DEVICE

SECTION I. DESCRIPTION AND LEADING PARTICULARS

15.1.1 INTRODUCTION

The port sharing device (PSD) is a software task executing within the acquisition control unit (ACU) that enables the single port on the remote terminal to AFOS (RTA) to communicate with both ASOS and the auxiliary backup terminal (ABT). The PSD performs the communications management functions necessary for forwarding messages between the RTA and ABT and between the RTA and ASOS. In order to provide the buffering necessary to support PSD functions, an additional memory board has been installed in the ACU at those installations where the PSD has been implemented.

15.1.2 PHYSICAL DESCRIPTION

PSD functions are performed as a task in the ASOS software. Figure 15.1.1 illustrates the communications paths between the PSD, ASOS, RTA, and ABT. An additional memory board is required for PSD operation. Figure 15.1.2 illustrates the position of the memory board in location A4 of the ACU card rack assembly. Two leased line modems will also be installed in cases where the RTA and the ABT are remote from the ACU (i.e., more than 100 feet). The RTA and ABT are co-located in all cases so that these devices will both be remote or both local. A detailed diagram illustrating the pin-to-pin connection between the ACU Serial I/O (SIO) boards and connectors on the RTA and ABT is provided in Section IV.

15.1.3 FUNCTIONAL DESCRIPTION

The PSD handles message traffic between the RTA and ABT and between ASOS and the RTA. The following general categories of message-types handled by the PSD are as follows:

a. ASOS/RTA messages

b. ABT to RTA data requests

c. ABT to RTA status messages

d. RTA to ABT data replies

e. RTA to ABT unsolicited messages

The PSD acknowledges each message (i.e., requests, replies, or status messages) received from either the ABT or the RTA; however, messages received from ASOS are not acknowledged. The communications procedures utilized by the PSD to handle message traffic is described in detail in Section IV. The use of the DIAG function to monitor PSD communications is described in Section V.

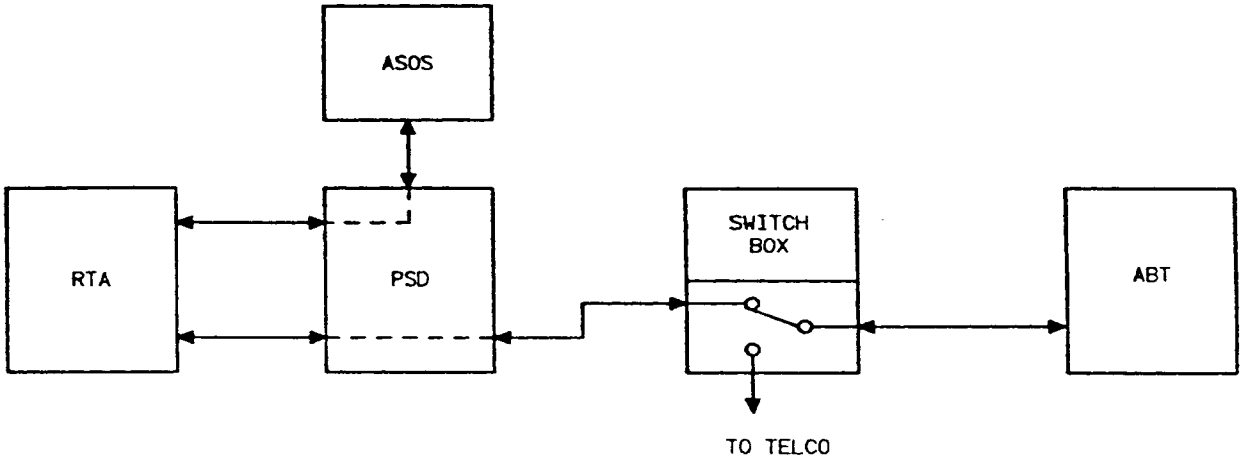

Figure 15.1.1. PSD Communications

A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12	A13	A14	A15	A16	A17	A18	A19	A20	A21
CPU BOARD A XVME-601/6	CPU BOARD B XVME-601/6	MEMORY BOARD XVME-110/1	MEMORY BOARD XVME-100/1	SIO BOARD 1 XVME-401/1	SIO BOARD 2 XVME-490/1	SIO BOARD 3 XVME-490/1	SIO BOARD 4 XVME-490/1 *	SIO BOARD 5 XVME-490/1 *	SIO BOARD 6 XVME-490/1 *	SIO BOARD 7 XVME-490/1 *	BLANK (RESERVED FOR SIO BOARD 8)	A/D BOARD XVME-590/1	VME RESISTOR BOARD 62828-47003-10	DIGITAL I/O BOARD XVME-290/1	VIDEO CONTROLLER BOARD SVME 676 *	BLANK	BLANK	BLANK	VOICE PROCESSOR (CPU) VDS-9801	VOICE RECORDER/PLAYBACK VDS-9811

* OPTIONAL

17023A16

NOTE: MEMORY BOARD FOR PSD IS INSTALLED IN A4

Figure 15.1.2. PSD Memory Board Location